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December 1, 2006

VIA HAND DELIVERY

Ms. Karen J. Nickerson
Delaware Public Service Commission
Cannon Building, Suite 100
861 Silver Lake Boulevard
Dover, DE 19904

RE: PSC Docket No. 06-241, In The Matter Of Integrated Resource Planning For The Provision Of Standard Offer Service By Delmarva Power & Light Company Under 26 *Del. C.* §1007(C) & (D): Review and Approval of the Request For Proposals For The Construction of New Generation Resources Under 26 *Del. C.* §1007(D) (opened July 25, 2006) – Integrated Resources Plan Compliance Filing

Dear Ms. Nickerson:

On behalf of Delmarva Power & Light Company (“Delmarva” or the “Company”), attached is an original and 14 copies of the Company’s Integrated Resources Plan (“IRP”), filed pursuant to the Delaware Electric Utility Retail Customer Supply Act of 2006 (“EURSA” or “the Act”). EURSA, as passed by the Delaware General Assembly in the Spring of 2006, mandated that Delmarva prepare an integrated resource plan and evaluate various procurement strategies for Standard Offer Service energy supply (“SOS”). The IRP findings are summarized below.

Specifically, the IRP conducted by Delmarva finds that:

- The current procurement process for Delaware SOS customers, as implemented in May, 2006, and approved by the Delaware Public Service Commission, is an effective way to meet SOS customer energy needs and provide these customers with relatively low prices and price stability;
- Delaware is unusual in requiring an IRP where all customers are eligible to choose an alternate supplier. The ability of customers to choose alternate suppliers greatly increases the risks associated with long-term procurement

commitments. This is particularly true of long-term power purchase agreements (“PPAs”) that have the very real potential to obligate customers to buy fixed amounts of energy at above-market prices. A long term PPA also greatly increases the likelihood that the Company would have to continually request the Commission approve non-bypassable charges for distribution customers to recover stranded cost;

- Demand Side Management (“DSM”) offers cost effective opportunities to reduce peak load and improve energy efficiency. The advent of smart metering will enable many DSM and conservation programs and enhance the effectiveness of many efficiency and load control programs;
- Planned major transmission upgrades, such as the Mid Atlantic Power Pathway Project (also referred to as the “MAPP Project”), will significantly reduce congestion in the region and on the Delmarva Peninsula, and allow for greater access to all system resources, will occur in PJM within the next ten years. These transmission projects have the potential to greatly affect the competitive energy market on the Delmarva Peninsula in many positive ways and are a preferable alternative to the construction of large, new generating facilities in Delaware. The reduction in congestion, plus greater access to lower cost generation resources in PJM are two of the more important benefits provided by new transmission assets;
- The optimum resource plan includes a cumulative 125 MW through 2016 of renewable resources to be built in Delaware. If no migration was to occur, approximately 44 MW of renewable resources would be attributable to Delmarva’s SOS customers. Delmarva will evaluate alternatives to secure resources by 2016, if the Commission deems it appropriate to do so; and,
- Consistent with the results of the IRP, the existing Delaware SOS process of procuring rolling three year contracts will remain in place to provide SOS customers with access to competitively procured full requirements energy products. This will allow SOS customers to receive competitively priced products from a diverse set of suppliers and protect SOS customers from the risks associated with owning supply assets. This process also has been shown to effectively mitigate price volatility. Delmarva, in conjunction with the Commission, would like to explore the possibility of conducting the bid-auction process twice a year, to further improve this process.

Ms. Karen J. Nickerson

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Copies of this filing have also been provided to Staff, the Independent Consultant, the Office of Management and Budget, the Controller General, the Energy Office and the parties listed below. Should you have any questions please contact James Demarest, William R. Moore, Jr., or the undersigned counsel.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Anthony C. Wilson', with a stylized, flowing script.

Anthony C. Wilson
Associate General Counsel
On behalf of the
Delmarva Power & Light Company

cc: Dkt. No. 06-241 Service List
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**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

**IN THE MATTER OF INTEGRATED RESOURCE)
PLANNING FOR THE PROVISION OF STANDARD)
OFFER SERVICE BY DP&L POWER &)
LIGHT COMPANY UNDER 26 *DEL. C.* §1007(c) &)
(d): REVIEW AND APPROVAL OF THE REQUEST) **PSC DOCKET NO. 06-241**
FOR PROPOSALS FOR THE CONSTRUCTION OF)
NEW GENERATION RESOURCES UNDER)
26 *DEL. C.* §1007(d) (Opened July 25, 2006))**

**Delmarva Power & Light Company
Integrated Resource Plan
2007 to 2016**

Compliance Filing

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December 1, 2006

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I. OVERVIEW AND SUMMARY

The Electric Utility Retail Customer Supply Act of 2006 (“EURSA” or the “Act”), passed by the Delaware General Assembly in the Spring of 2006, mandated that Delmarva Power and Light (“Delmarva” or “Company”) prepare an Integrated Resource Plan (“IRP”) and evaluate various procurement strategies for Standard Offer Service (“SOS”) energy supply. While the IRP resource plan and SOS procurement strategies are inter-related, as described below, they are two different concepts.

The purpose of the IRP is to determine the optimal set of electric generation, transmission, and Demand Side Management (“DSM”) resources that best meet Delmarva’s Delaware customer needs. The SOS procurement strategy is concerned with the most desirable ways that these resources can be obtained for Delmarva’s Delaware SOS customers.

Delmarva is an electric distribution company serving customers in the State of Delaware (“Electric Distribution Company”). Delmarva does not generate electricity – rather it procures supply. Delaware has adopted retail customer choice for Delmarva customers. Accordingly, Delmarva customers have the opportunity to select an alternate energy supplier. Those customers who choose to remain with Delmarva are termed “Standard Offer Service” or “SOS” customers. The vast majority of SOS customers belong to the Residential and Small General Service/Industrial rate classes (this group of SOS customers is referred to as the “RSCI” customers). Energy is procured for RSCI customers by Delmarva through a competitive bid auction process conducted once a year. The current procurement plan, as approved by the Delaware Public Service Commission (“Commission”), is to procure a three year contract for approximately 1/3 of the RSCI SOS each year. Eventually when the process is fully implemented, the RSCI SOS customers will receive a rolling three year average price.

There are other classes of Delmarva customers that are also eligible for SOS. The table below provides a short definition of these classes and the special features of SOS service for these classes. For this document, the focus of the SOS analysis is on the procurement strategies and resource needs of the RSCI SOS customers.

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<u>Delmarva</u>		<u>Delaware Customer Classes</u>	
<u>Rate Class</u>		<u>Definition</u>	<u>SOS Terms</u>
Residential		Residential; Non-demand	1/3 of total combined class load bid each year
Non-Residential General Service:	Small	Less than 3,500 kwh/month; non-demand	
Non-Residential:			
General Service:	Medium	Greater than 3,500 kwh/month; less than 300 kw demand; TOU	100% bid each year
General Service:	Large	Served at Secondary voltage; Greater than 300 kw demand; TOU	100% bid each year
General Service:	Primary	Served at Primary Voltage; Owns and maintains transformers, switching and protection gear; TOU Option to elect hourly energy.	100% bid each for non-hourly customers
General Service:	Transmission	Served at Transmission Voltage; Hourly energy	Not bid. Served at PJM hourly prices

Shading represents RSCI Standard Offer Service (SOS) Load

Delmarva retained the consulting firm ICF to support the development of the IRP and provide their computer planning model. ICF supported Delmarva through their subject matter expertise and their computer modeling efforts. For the IRP, Delmarva used the same computer model structure that was employed in developing the Regional Greenhouse Gas Initiative ("RGGI") environmental standards now being used by nine States, including Delaware. The model has also been used in numerous regulatory proceedings.

The ICF model provides a broad view of Eastern energy markets including PJM and all of the zones within PJM (e.g. the Delmarva zone). This allows generation, transmission, and DSM to be evaluated on an equal footing and also recognizes key environmental factors. While the planning model allows a consistent and intelligent estimate of conditions in the future, it is still necessarily based upon a set of assumptions about the future. To the extent that current assumptions about the future prove to be incorrect, the plan produced by the model becomes less reliable. Thus, while such modeling is a commonly – used feature of integrated resources planning,

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modeling results provide only a starting point in making regulatory policy or investment decisions.

In determining the optimal set of supply/demand resources for its Delaware customers, the Company has also given significant thought to the best procurement strategies for SOS customers in light of the legislatively mandated existence of customer choice. Customer switching or “migration” can have significant impact on specific SOS procurement strategies because, based on the particular procurement strategy, it may lead to customers having to pay for stranded costs. Delaware is unusual in requiring an IRP for an Electric Distribution Company operating in an environment of customer choice. A detailed discussion of how customers have to pay for stranded costs and specific SOS procurement strategies is set forth in Section 6 “Procurement Strategies for SOS Customers.”

In addition to the IRP and SOS procurement evaluation, EURSA required Delmarva to conduct a competitive request for proposal (“RFP”) process to consider long term commitments with third party resource suppliers; however, the response bids to the RFP process will not be received until December 22, 2006, which is three weeks after this IRP is filed. While it would have been preferable to have received the RFP bids prior to completing the IRP, Delmarva will update the results of the resource plan and SOS procurement strategies, as needed, in January and early February, 2007. The updated results will be provided to the Commission prior to February 28, 2007.

II. FINDINGS

1. The Optimal Resource Plan

The base case, as developed by the model, shows a cumulative 125 MW through 2016 of renewable resources to be located in the State of Delaware including areas served by Delmarva and all other electric distribution companies. This result is driven by legislated renewable purchase requirements and subsidies. If no migration was to occur, approximately 44 MW of these renewable resources would be attributable to serving Delmarva's SOS customers. If migration occurred consistent with Pepco Holdings other service territories, the amount attributable to Delmarva's SOS customers could be less than 30 MW.

2. The Role of DSM

DSM offers cost effective opportunities to reduce peak load and improve energy efficiency. These DSM programs include, among others, Residential and Small Commercial smart thermostat programs and rebates for high efficiency Air Conditioning and high efficiency lighting. The advent of smart metering will enable many DSM and conservation programs and enhance the effectiveness of many efficiency and load control programs. The myriad DSM programs currently underway in Delaware should be centrally coordinated by Delmarva to increase the market effectiveness of the programs.

3. The Impact of New Transmission Lines

The construction of major new transmission lines will have a significant impact on Delmarva's SOS and non-SOS customers. For example, completion of PHI's planned Mid Atlantic Power Pathway ("MAPP") line will result in considerable reduction of congestion on the Delmarva peninsula and create opportunities for low cost generation resources to the south and west to be imported into Delmarva.

4. The Impact of Customer Choice

Customer Choice and IRP are not complementary. We have made this point before: the last IRP, filed on June 30, 1997, by Delmarva, indicated that "Delmarva supports retail choice, but, its advent threatens the basic premise on which IRPs rely: that a utility has an exclusive right and corresponding obligation to serve customers in its franchised service territory." Delaware is singularly unusual in requiring an IRP where all customers are eligible to choose an alternate supplier. The ability of customers to choose alternate suppliers greatly increases the risks associated with long-term procurement commitments. This is particularly true of long-term power purchase agreements ("PPA") that have the very real potential to obligate customers to buy fixed amounts of energy at above-market prices. A long term PPA also greatly increases the likelihood that customers will be subjected to non-bypassable wires charges to recover

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stranded cost. Although experience with customer migration in Delaware is limited, it is very real. Through October 2006, approximately 64% of the commercial load (613Mw) was served by alternate suppliers. Between December 31, 2005 and October 27, 2006, 2,319 residential customers had switched suppliers and more than the 2,105 new residential customers added to the Delaware Delmarva system.

5. The Impact / Role of Regional Planning

Regional generation and transmission planning is already dealing with many of Delaware's concerns related to energy supply reliability and diversity. Consistent with the Federal Energy Regulatory Commission ("FERC") approved tariffs, PJM, as a Regional Transmission Organization ("RTO"), was delegated planning responsibilities for the transmission system within PJM. In addition, PJM, as the RTO, has the responsibility for the reliable interconnection of generation resources. Furthermore, PJM's new RPM process will ensure forward commitments of generation capacity resources.

PJM recently transitioned to a longer term Regional Transmission Expansion Planning Process ("RTEP") that develops a 15 year plan to ensure adequate time for siting, permitting, design and construction of larger high voltage projects. RTEP will provide for major high voltage transmission upgrades within PJM during the ten year IRP planning period. To provide the proper incentive for new generation, a new capacity construct called the Reliability Pricing Model ("RPM") is planned for implementation in June of 2007. This plan, currently awaiting approval from FERC, is designed to provide local capacity incentives for generators and demand-side resources to add capacity in areas that need it the most.

PJM and its members are also in the process of developing market efficiency rules. These rules will develop an economic planning process that will analyze existing and forecasted transmission congestion to determine what projects should be constructed to alleviate the higher energy costs associated with congestion.

PJM's enhanced planning processes with the proposed RPM and Economic Planning processes are designed to ensure reliable, least cost power for customers within the PJM territory. These changes are expected to prompt transmission and generation infrastructure construction throughout PJM. Both planned and proposed infrastructure changes will mitigate congestion for the Delmarva Peninsula. Delmarva agrees with these regional planning activities and assists PJM in proposing and developing solutions to serve its customers. The PHI companies have historically taken a regional approach to planning: Delmarva filed one IRP for all of its three state service territory and, similarly, Pepco filed one IRP for both the District of Columbia and Maryland.

6. The SOS Procurement Process

The current procurement process for Delmarva's Delaware SOS customers, as implemented in May 2006, and approved by the Delaware Public Service Commission, once fully enacted, will be an effective way to meet SOS customer energy needs and provide these customers with relatively low prices and price stability, without the risk associated with long-term, fixed-price contracts. In the PHI companies, ACE and Pepco

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DC, where similar processes were in place during the Spring of 2006, customers experienced relatively modest price increases of between 12% and 13%, despite a much larger increase in the underlying prices for fuel and power. Under the current process, customers will: 1) have the benefit of prices based upon a competitive bid auction process conducted with a diverse set of multiple suppliers that provide standard 50MW products; 2) receive full requirements service, including firm energy, load following and ancillary services; 3) not be exposed to the risks associated with owning a generating asset; 4) have energy prices reflecting a three year average of market prices; 5) have annual price fluctuations limited to roughly 1/3 of the annual change in market price; and 6) have customer migration risks accepted by suppliers.

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III. LEGISLATIVE MANDATE

The IRP has been prepared and filed by Delmarva, as required by EURSA. Among other things, EURSA specifically requires Delmarva to conduct an IRP, prepare an RFP for long-term (10-25 years) supply resources, and to consider alternatives to the current SOS arrangements.

EURSA specifically defines “Integrated Resource Planning” as “the planning process of an Electric Distribution Company that systematically evaluates all available supply options, including but not limited to: generation, transmission and Demand-Side Management programs, during the planning period to ensure that the Electric Distribution Company acquires sufficient and reliable resources over time that meet their customers’ needs at a minimal cost.”

In addition, EURSA provides the following guidance to Delmarva in developing the IRP:

- In its IRP, Delmarva shall systematically evaluate all available supply options during a ten (10) year planning period in order to acquire sufficient, efficient and reliable resources over time, to meet its customers’ needs at a minimal cost.
- The IRP shall set forth Delmarva’s supply and demand forecast for the next ten (10) year period and shall set forth the resource mix with which Delmarva proposes to meet its supply obligations for that ten year period (i.e., Demand-Side Management Programs, long-term purchased power contracts, short-term purchased power contracts, self generation, procurement through wholesale market by RFP, spot market purchases, etc.).
- As part of its IRP process, Delmarva shall not rely exclusively on any particular resource or purchase procurement process.
- In its IRP, Delmarva shall explore in detail all reasonable short and long-term procurement or Demand-Side Management strategies, even if a particular strategy is ultimately not recommended.
- At least 30% of Delmarva’s resource mix of shall be purchases made through the regional wholesale market, via a bid procurement or auction process held by Delmarva.

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- The IRP must investigate all potential opportunities for a more diverse supply at the lowest reasonable cost.

EURSA also allows Delmarva to explore additional strategies outside its current approach to meet its electric supply requirements. These alternative strategies, subject to Commission approval, include the ability of Delmarva to:

- Enter into short and long-term contracts for the procurement of power necessary to serve its customers;
- Own and operate facilities for the generation of electric power;
- Build generation and transmission facilities (subject to any other requirements in any other section of the Delaware Code regarding siting, etc.);
- Make investments in Demand-Side resources; and,
- Take any other Commission approved action to diversify Delmarva's retail load.

Finally, EURSA suggested that, in developing the IRP, Delmarva may consider the economic and environmental value of:

- Resources that utilize new or innovative technologies;
- Resources that provide short or long-term environmental benefits ... (such as renewable resources like wind power...);
- Facilities that have existing fuel and transmission infrastructure;
- Facilities that utilize Brownfield or industrial sites;
- Resources that promote fuel diversity;
- Resources of facilities that support or improve reliability; and
- Resources that encourage price stability.

EURSA also suggested broad policy objectives related to the provision of SOS energy side. These objectives form the basis of Delmarva's evaluation of resource alternatives within the IRP.

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1. Price Stability

The increases in energy prices experienced by Delmarva SOS customers in early 2006 were a key driver in the passage of EURSA by the General Assembly. These large increases occurred because 1) SOS customers were 100% exposed to current market conditions for the first time, and 2) market prices were near all time highs due to high fuel costs resulting from the damage created by Hurricanes Katrina and Rita. In the ACE and Pepco DC territories, SOS customers were exposed to an increase in price for only 1/3 of the supply and, as a result, total energy price increases were between 12% and 13%. EURSA does not specifically define the term "price stability." Delmarva's view is that "price stability" does not mean that prices never change; but that over time the percentage changes (up or down) tend to be as small as they can given energy market conditions.

While Delmarva appreciates the intent of EURSA to help stabilize prices for Delaware SOS customers, the existence of customer choice requires that an IRP recognize the ability of SOS customers to select alternate energy suppliers. This ability allows SOS customers to "bypass" SOS supply, which can lead to increased volatility for the remaining SOS customers and, if severe enough, to all distribution customers. The best way for Delmarva to avoid exposing its customers to stranded costs, and mitigate the price volatility risk posed by migration, is to avoid long term commitments and limit the term length of energy supply commitments as is effected by Delmarva's current energy procurement process. This important point will be discussed further in following sections of this IRP.

2. Diversity of Supply

EURSA refers several times to the need for Delmarva to diversify its electric supply options. From an IRP perspective, the advantage of supply diversity is that diversity reduces the risk of a particular supply resource being unavailable or priced above market. Also from an IRP perspective, diversity can relate to differing lengths of supply commitments, the development of transmission, DSM and other energy efficiency measures or other resource options.

3. Low Cost

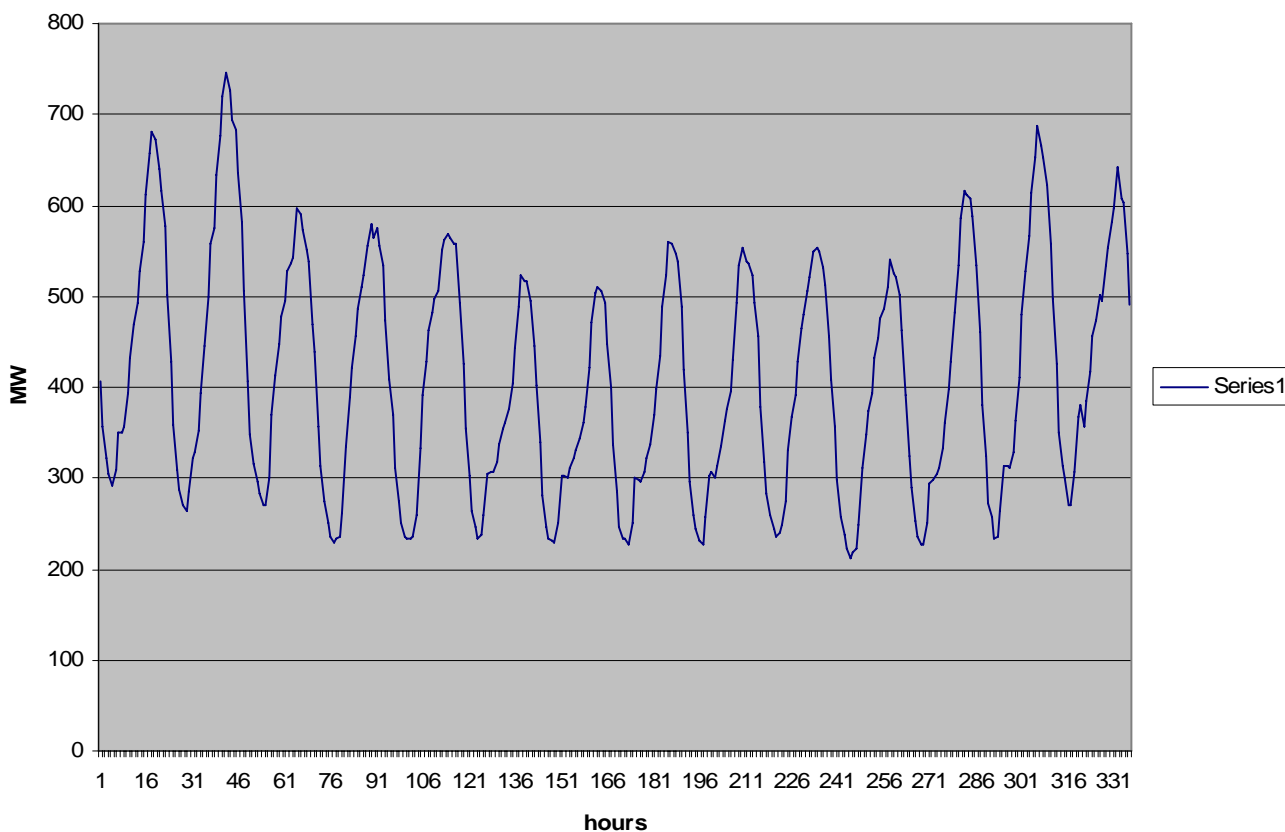
One of the primary goals of this IRP is to determine the optimal supply plan to achieve the lowest cost solution to SOS customers while meeting all other objectives of EURSA. Any supply plan entails some level of market risk and exposure and there are costs to provide risk mitigation and protection. The IRP becomes, in reality, a balance between providing low cost electricity and mitigating price fluctuations for SOS customers. This point is discussed in some detail below.

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4. Customer Needs

EURSA specifically directs Delmarva to prepare an IRP that meets customer needs. The optimal mix of SOS procurement is not merely obtaining a fixed amount of capacity and energy; it requires obtaining the right amount of capacity and energy at the right time (i.e., "load following") to match the variable SOS load. Delmarva's SOS customers have a highly variable electricity consumption pattern over every 24 hour period. For example, Figure 1 shows the load profile for Delmarva's RSCI rate class for the two week period of September 1, 2005 to September 14, 2005. The RSCI load shows a pronounced yet variable pattern over this period. Similar load patterns are obtained for other times of the year. This variability in SOS load is a challenge for energy procurement. It is prudent to match the characteristics of supply with the characteristics of demand. A fixed quantity supply contract does not do this very well.

Figure 1
Del RSCI Load Profile Sept 1-14 2005



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IV. THE IRP IN A DEREGULATED MARKET

The goal of Integrated Resource Planning is generally to provide a program to obtain the demand side, supply side, and transmission resources that minimize costs and meet the other objectives of electric utility customers. Typically, IRPs focus on long term issues associated with the utility's obligation to provide long term service in exchange for the customer's associated obligation to buy its power from the utility.

However, as noted above, the market circumstances regarding the SOS customers of Delmarva are not consistent with traditional IRP planning. Delmarva customers have the right to switch their supplier of full requirements generation services at any time, without penalty. While Delmarva provides SOS power to its customers who have not chosen other suppliers, these customers retain the right to switch from SOS service to alternative suppliers without notice or penalty. In fact, Delmarva's last IRP, filed on June 30, 1997, indicated that:

"Delmarva supports retail choice, but, its advent threatens the basic premise on which IRPs rely: that a utility has an exclusive right and corresponding obligation to serve customers in its franchised service territory."

In other words, if customers can choose alternate suppliers, planning long term energy supply commitments for these customers becomes extremely problematic. The current IRP is focused on the provision of Standard Offer Service to RSCI customers. These customers have the right to choose suppliers other than Delmarva, as Delmarva no longer has an exclusive right, under current law, to provide energy to customers in its service area. An example of the inherent contradiction between an IRP and competitive markets is the fact that in many resource choices, an IRP model uses cost-based numbers to compare the various alternatives but in a customer choice environment, consumer prices are not the cost based rates which they were under regulation. They are market based, and may or may not reflect actual cost.

While RSCI customers had the opportunity to choose alternate suppliers with the advent of customer choice in Delaware, there was little migration to other suppliers until the rate caps were lifted with the advent of EURSA in the Spring of 2006. The following table shows the number of Delmarva Delaware residential customers who have selected alternate suppliers since December 31, 2005:

	12/31/05	3/31/06	6/30/06	9/30/06	10/27/06
Residential customers selecting alternate supplier	0	0	613	1,939	2,319
Total Residential customers	259,877	260,744	260,895	261,360	261,982

The above table shows that since December of 2005, 2,319 Delmarva Delaware residential customers have switched suppliers. While this is not a large percentage of

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residential customers, the number of customers who have switched is greater than the number of new Delmarva Delaware residential customers (2,105) over the same 10 month period. For comparison, through October 2006, 25,695 Pepco Maryland residential customers (5.5%) were served by alternate suppliers and 339 Delmarva Maryland customers were served by alternate suppliers.

The following Table shows similar information for Delmarva's commercial customers:

Capacity Obligation (MW)	12/31/05	3/31/06	6/30/06	9/30/06	10/27/06
served by Delmarva	968.1	975.5	458.3	354.3	342.8
served by suppliers	79.6	79.6	496.9	601.9	613.0

As the above table shows, by the end of June 2006, competitive suppliers provided more of the capacity obligation for commercial customers than Delmarva and, as of the end of October 2006, these suppliers accounted for 64% of the commercial capacity obligation.

Importantly, as compared to prior IRPs, Delmarva no longer owns generation capacity and is not engaged in related wholesale power marketing activities. Delmarva is not a vertically integrated utility company, nor is its ultimate parent, Pepco Holdings, Inc. Delmarva meets SOS demand by buying power on behalf of SOS customers from multiple third parties in a competitive auction process.

Under a settlement approved by the Commission, Delmarva began offering SOS at market-based rates on May 1, 2006, for residential and business customers. The SOS product currently provided by Delmarva to its SOS customers is a "Full Requirements" rate. "Full Requirement Power" is similar to a portfolio of generation assets, which has base-load, cycling, and peaking resources. Wholesale power markets offer a variety of products, such as peak or off peak energy, fixed amounts, and load following services. Currently, for SOS procurement, Delmarva purchases a specific product during the bidding process. This product is a "full requirements" contract that includes firm energy delivery, load following and ancillary services.

Firm energy means that the counterparty will deliver the energy required to meet the portion of the SOS load covered by the contract *whenever* that load occurs. Load following means that the supply and demand quantities are perfectly matched, leaving no stranded costs. In contrast, a typical PPA contract with a developer is neither for firm energy nor load following, it is for fixed output from a specific generating asset. When the generating unit is not available, customers bear the risk of energy replacement at spot market prices. When demand is below the fixed volume amount of the contract, customers bear the risk of selling at a price below the contract price.

In order to provide rate stability for RSCI customers, Delmarva initially procured 1/3 of the load with a three year contract, 1/3 with a two year contract, and 1/3 with a one year

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contract. (Each contract was actually one month longer than the nominal term, in order to move from the May 1, 2006 start date for SOS to a PJM “planning” year, which commences June 1 of every year.)

By the end of the second year, there will be a portfolio of three year contracts (each with a different expiration date) to serve the residential and small commercial load, and each year thereafter a new three year contract for 1/3 of that load will be entered into to replace the expiring contract. This three year “staggering” of energy requirements contracts is a critical price volatility mitigation measure. The staggering ensures that RSCI SOS customers will have roughly 1/3 of their supply associated with market volatility in any given year.

When the 1999 price caps expired in the Spring of 2006, and 100% of the SOS customer energy requirements needed to be purchased, energy prices had spiked and as a result of high market prices Delmarva’s SOS customers experienced large price increases. As noted above, however, in other PHI jurisdictions where similar staggered term hedging mechanisms were fully in place, price fluctuations experienced by SOS customers were between 12% and 13%. The Delmarva SOS procurement process going forward is expected to provide smaller price fluctuations from year-to-year than that which was experienced in June 2006. This year, on November 27, 2006, Delmarva conducted another auction for a three year supply for 1/3 of the SOS Full Requirements. Any fluctuations in the market will be dampened, as this three year contract is blended with the remaining contracts currently in effect.

V. ADDITIONAL IRP CONSIDERATIONS

The Delmarva IRP process considered other factors as well, including:

1. PJM RPM

The PJM marketplace is the largest and most robust wholesale power market in the United States. PJM continues to evolve and has major planning activities of its own that must be factored in to Delmarva's IRP. One important area is the creation of the PJM RPM, which will create new, more locally determined, capacity markets, including one that incorporates Delmarva. As discussed later, most price volatility has been in the PJM energy markets and the closely related Delmarva SOS requirements market. This has been predominantly due to volatility in natural gas and oil prices. The new Delmarva capacity market should have a different dynamic than past PJM capacity markets. Delmarva expects that RPM will provide a more stable stream of capacity revenue and relieve pressure on resources to recover costs solely in the energy market. In addition, the PJM capacity market will have a forward three year supply auction; the goal of which is to increase the stability of the market and facilitate new capacity additions. Delmarva anticipates that this new structure will provide the proper signal to the competitive resource suppliers such that capacity additions will be determined efficiently by the market, in a competitive fashion.

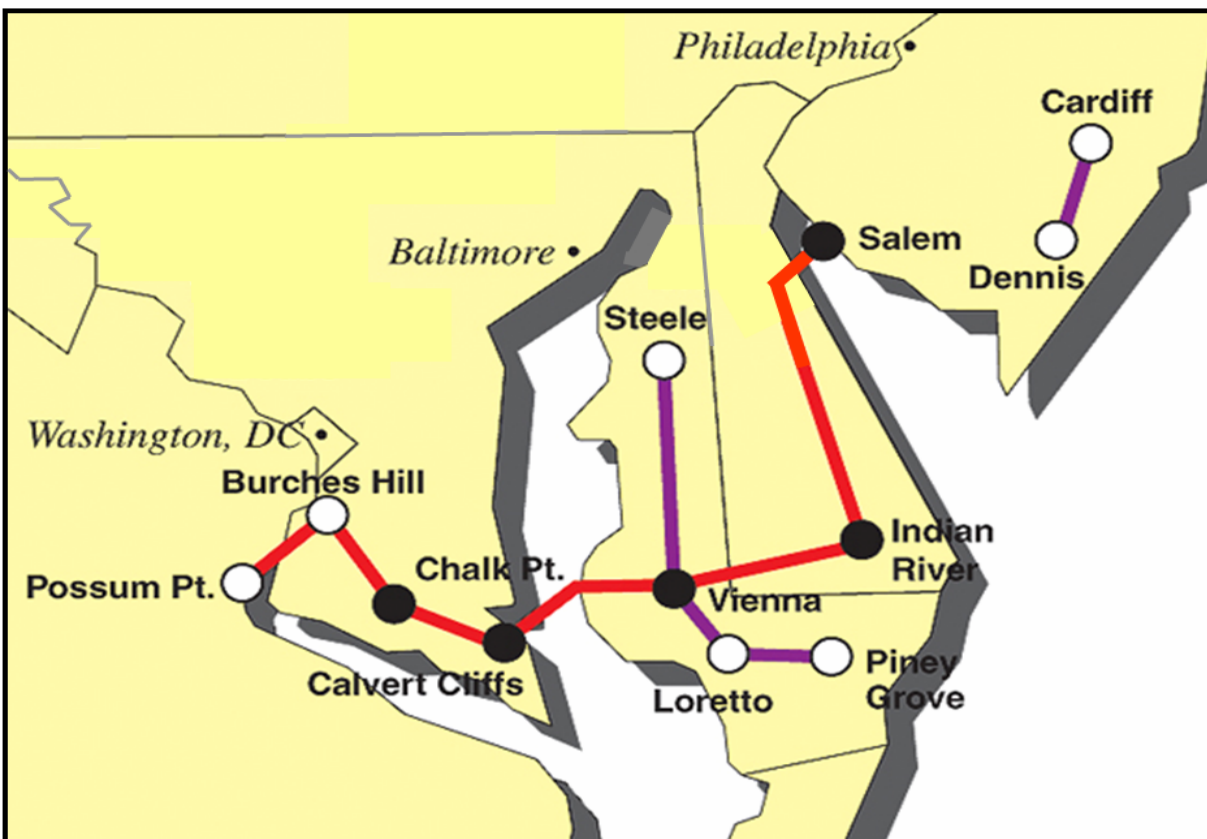
2. PJM Transmission

PJM is conducting its own planning exercise, focusing on providing significant long term transmission system enhancements. This process, known as RTEP, is likely to encourage major new transmission construction, including the proposed Mid Atlantic Power Pathway transmission line, which would connect the Delmarva Peninsula with other regions of PJM. The construction of major new transmission lines can have a very significant impact on the IRP. For example, completion of the MAPP line could result in considerable reduction of congestion on the Delmarva Peninsula and create opportunities for low cost generation resources to the south and west, to be imported into Delmarva with little constraint.

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The MAPP project would essentially extend a 500 kV line from Possum Point in Virginia, across the Potomac River and Chesapeake Bay, up through the Delmarva Peninsula and across the Delaware River to Salem, New Jersey. This is shown in Figure 2.

Figure 2, Diagram of MAPP.



Possum Pt to Salem=500KV

Steele to Piney Grove and Dennis to Cardiff= 230KV

Completion of the MAPP project will provide tremendous benefits to Delmarva customers. These benefits include increased reliability, elimination of major congestion constraints and much greater access to other generation resources within PJM. Completion of this project will benefit SOS customers, because it will allow more suppliers to competitively bid in the SOS auction process.

The MAPP proposal, along with other transmission proposals, is currently under consideration by PJM, which is expected to determine which projects it will approve by the end of the first quarter of 2007. Delmarva's long term plan is to complete the construction of MAPP by 2014, on a timely and efficient basis.

3. Environmental Regulations

Delaware has a comprehensive set of regulations, laws and regulatory plans that will reduce air emissions from the State's fossil fuel fired power plants. Delaware is a participant in the Regional Greenhouse Gas Initiative ("RGGI"), which will reduce emissions of carbon dioxide (CO₂). RGGI is a cooperative effort by nine Northeast and Mid-Atlantic states to implement a mandatory cap-and-trade program covering CO₂ emissions from fossil fired power plants with capacity equal to or greater than 25 MW located in the region.

In August 2006, the participating states issued a model rule for the RGGI program. The model set of regulations details the CO₂ cap-and-trade program, and will form the basis of individual state regulatory and/or statutory proposals to implement the program. The IRP must be consistent with this newly adopted program. In addition, the federal government has recently promulgated the Clean Air Interstate Rule ("CAIR") and the Clean Air Mercury Rule ("CAMR"). These programs will reduce emissions of SO₂, NO_x, and mercury. In part to satisfy the State's obligations under these federal rules, Delaware promulgated a final rule in November 2006, establishing NO_x, SO₂, and mercury emission limits to achieve reductions of those pollutants from Delaware's large electric generation units. In general, coal plants emit more CO₂, NO_x, SO₂, and mercury per unit of energy than any other demonstrated alternative fuel.

Carbon is, by far, the major component of coal, and coal combustion emits almost twice as much CO₂ per unit of energy as does the combustion of natural gas. In addition, there are state and local regulations on renewable energy and, most notably, a state renewable portfolio standard ("RPS"), which requires electricity providers obtain 10% of their electricity from renewable energy resources by 2019. Lastly, there is an active dialogue at the federal and international levels around the issue of a carbon tax to mitigate climate change. The potential for a carbon tax can have a significant impact on the viability of coal-fired electric generation units in the United States and the PJM region. The IRP may be significantly impacted by such a tax and other possible climate change regulatory initiatives.

4. Demand Side Management

Delmarva evaluated demand side management, including both conservation and demand response programs using the following process:

1. Identify the measure;
2. Develop Delaware Baseline Energy Efficiency Characteristics;
3. Estimate Measure Impacts;
4. Estimate Measure Costs;

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5. Screen for cost-effectiveness;
6. Estimate Market Potential; and,
7. Evaluate measures through IPM Modeling.

Initially, an extensive list of potential electric energy efficiency and demand response measures was identified through a review of prior Delmarva studies, ICF databases, and various regional and national studies. The existing specific energy characteristics of the Delaware Delmarva market were compiled from previous Delmarva studies and supplemented with regional and national data. Together, this information was used to develop existing baseline energy efficiency estimates, electric end-use penetration rates, and building stock characteristics. The energy and demand impact of measures were estimated through a combination of building simulation modeling and recent impact studies. Individual measure costs were estimated based upon regional and national studies, prior Delmarva studies, and vendor quotes. The identified demand-side measures were then screened using the Total Resource Cost-Effectiveness Test ("TRC Test"), to avoid the potential selection of measures that are not expected to be cost-effective. The market potential of each measure was developed to create estimates of the quantity of energy and demand reductions that would be achieved by each measure. Measures that passed the TRC Test with a benefit/cost ratio of 1.0 or higher were passed to the IPM model as a potential future supply resource.

Delmarva recognizes that energy efficiency and demand response programs that are expected to lower electricity costs in a cost-effective manner are appropriate for Delaware electricity customers. Delmarva is well-positioned to provide demand-side management programs to its customers. Delmarva has more than 20 years of experience in the provision of demand-side programs to its Delaware customers. Historically, Delmarva has offered its customers a wide array of energy efficiency programs, ranging from direct control peak demand reduction programs, to extensive energy efficiency loan, audit, and rebate programs. At this time, Delmarva's affiliate company, ACE, currently manages the provision of approximately \$9 million annually of energy efficiency to its New Jersey customers. Both Delmarva and its affiliate company, Pepco, have recently offered to manage the provision of demand-side management programs to their Maryland customers.

It is important to recognize that large scale demand-side management programs require comprehensive planning, design, implementation, administration, and evaluation to be effective. It is important to integrate the planning of large scale energy efficiency programs into the optimal design of electric distribution and transmission system operations. Delmarva has the experience, capability, and willingness to perform this work for its Delaware customers.

Delmarva recommends that the Commission authorize appropriate and timely recovery of costs associated with DSM. The Company also believes the Commission should implement revenue neutrality for Delmarva to ensure there are no disincentives for

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conservation. After the Integrated Resource Plan and Delmarva's provision of demand-side management programs and an appropriate cost recovery mechanism is approved by the Commission, Delmarva proposes to submit to the Commission for approval a detailed demand-side management program implementation plan during 2007. The plan will contain specific program details regarding specific demand-side programs, projected budgets, implementation timelines and evaluation plans.

Delmarva's potential future deployment of an advanced metering system is expected to significantly enhance customers' willingness to reduce their electricity consumption during peak electricity demand periods through voluntary participation in electricity pricing options, whereby prices more closely track wholesale market electricity prices. Additionally, an advanced metering system can be integrated with demand response enabling equipment, such as smart thermostats, to automatically reduce energy consumption during periods of high energy prices. Due to the many uncertainties surrounding the future deployment of an advanced metering system by Delmarva in Delaware, this Integrated Resource Plan does not incorporate any of the demand response benefits that would result from such a system.

Delmarva has worked closely with the Commission Staff and the Division of the Public Advocate to examine the benefits and costs of advanced metering in the ongoing Docket No. 57 proceeding. On November 16, 2006, Delmarva, the Public Advocate and the Commission Staff submitted a report to the Commission on advanced or "smart" metering. In addition to describing the benefits and costs of smart metering in Delaware, this report recommended that the Commission consider establishing a smart metering pilot program to gather additional information regarding the benefits of this technology. Delmarva believes that adopting smart metering in Delaware would greatly enhance the effectiveness of demand response programs and help customers to better control their electricity costs. But the cost of deploying such a system is substantial and must be provided for, if such a deployment is ever to occur.

5. Procurement Requirements for a Small Group of Customers

The average total hourly annual load for Delmarva RSCI customers is about 400MW. This is relatively small compared to many of the options available for power supply. For example, the typical size of the coal plants under construction at this time in the United States is approximately 600 MW. The typical size of a natural gas power combined cycle is approximately 500 MW. Thus, matching a resource to the load is difficult since, on the one hand, the economies of scale in supply support a larger resource commitment relative to the load while, on the other hand, large commitments increase risk by decreasing diversity.

6. Price Volatility

Wholesale power prices in PJM, and in the Delmarva load zone generally, hit all time records in 2005 (see Table below). In 2005, wholesale power price levels reflected in the record high oil prices and high natural gas prices, resulting from Hurricanes Katrina

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and Rita related disruptions of natural gas supply. Thus, the first SOS bids were developed during a period of record high power and energy prices. Prices for 2006 year-to-date are the second highest on record, though they have come down from 2005 record levels. This price reduction was enabled by lower natural gas prices in 2006.

Historical Wholesale Power Prices (2005\$/MWh)

Year	On-Peak Firm (5 x 16)	All-Hours Firm (24 x 7)
1999	47	35
2000	49	37
2001	59	45
2002	46	34
2003	56	43
2004	59	49
2005	83	68
2006 YTD ¹	66	55
Average	58	46

¹ Through September 2006. Delmarva Load Zone.

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VI. LOAD FORECAST

Delmarva prepared a ten year demand forecast consistent with the PJM load forecast presented in the PJM Load Forecast Report, published in January 2006. This forecast projects an annual compound peak growth rate of 2% over the projection horizon. This peak demand forecast was constructed to be rigorously consistent with the energy by revenue class forecast that was prepared in September, 2005, for use in budgeting and planning (referred to as the 2006 Budget Forecast or the 2006 Planning Forecast).

Delmarva (and PJM) do not forecast peak demands by jurisdiction, by state or by customer rate/revenue class. To provide the level of granularity as required in this IRP, Delmarva used current Peak Load Contributions ("PLC"), as assigned by PJM, to allocate peak and energy requirements by jurisdiction and customer class. The Table below provides the Load Forecast for the Delmarva RSCI SOS customers.

Load Forecast of RSCI Customers

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Annual Peak Demand (MW)	922	933	958	980	996	1,017	1,037	1,059	1,085	1,106	1,124
Average Consumption (MWh/hr)	371	376	386	395	401	409	418	426	437	446	453

VII. PROCUREMENT STRATEGIES FOR SOS CUSTOMERS

1. Modifications to the Existing SOS Procurement Process

The current Delmarva SOS procurement process was designed to achieve two principal objectives. The first design objective was to keep the level of prices faced by our customers at reasonable levels. The second design objective was to avoid or alleviate price volatility. Delmarva believes that these two objectives need to be carefully balanced to meet customer needs in developing an SOS procurement strategy. For example, completely eliminating price volatility is likely to be quite expensive, so there should be a balance to determine what level of price volatility is acceptable in exchange for potentially lower prices.

Another important consideration in designing an SOS procurement strategy is the ability of SOS customers to choose suppliers, (i.e., SOS customers may “migrate” to non-SOS suppliers). Because of the migration potential the SOS load itself can be volatile and this adds additional risk to the procurement of electricity supply for SOS customers. Because of migration potential, there is a possibility that the SOS load to which the Electric Distribution Company is contractually committed will become greater than the load for the remaining SOS customers. If the Electric Distribution Company is obligated to acquire more energy than its SOS customers require, it will be forced to sell any excess into the market. Unfortunately, this sale could be at a loss to the distribution company, thus creating stranded cost. This stranded cost would need to be collected by SOS or all distribution customers.

In general, everything else being equal, the longer the term of a procurement contract, the greater the risk of SOS customer migration. This is a particularly important consideration for very long term contracts, because there are likely to be greater changes in market conditions over the long term of the contract. Delmarva considers very long term contracts to include contracts 10 years or greater, but, depending on circumstances, migration risk can also be a real concern for contracts of 5 years or less. The point is that as part of Delmarva’s evaluation of the SOS procurement process, greater risks are present where longer term procurement contracts are contemplated. Appropriate safeguard mechanisms, including security and credit requirements, would need to be implemented to protect the distribution company and its remaining SOS customers from these greater risks.

As noted above Delmarva, purchases a “full requirements” product for its SOS Customers. Sellers of this product also assume the migration risk, adding a premium to their bids to reflect the value of this risk. If the process burdens bidders with excessive or hard-to-evaluate risks, their risk premiums, and hence the prices they bid, could escalate greatly. Thus it is important that the bidding structure not impose such elevated risks on the bidders. In practice, this means that contracts must be of duration short enough that bidders can reasonably assess the risks associated with them. Should a new SOS procurement strategy be implemented that requires the procurement of some non-full requirements energy products, the missing services will still need to be

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procured from the market and provided to SOS customers. This will add to supply expense.

Delmarva believes that the SOS procurement process should:

- Balance reductions in price volatility with the absolute level of prices;
- Provide customers and the Electric Distribution Company with appropriate safeguards against migration risk; and
- Allow Delmarva to purchase the electricity supply product(s) best suited to customer needs.

Delmarva believes that the current 3-year, 3-traunche bidding process for SOS procurement provides a balance between favorable rates and price stability for SOS customers. A significant advantage of the existing process of SOS procurement is that it employs rolling three year contracts. The “rolling” aspect of this process mitigates substantial amounts of price risk faced by SOS customers, because it diversifies the timing of contract renewal. As noted several times above, recent experience with similar procurement practices in the District of Columbia and New Jersey greatly reduced the price volatility for our customers in those jurisdictions during the Spring of 2006. Because the current process procures full requirements energy products for SOS customers, all of their physical energy needs are met. The three year rolling process also provides a certain degree of migration risk; consequently, Delmarva recommends as part of this IRP that the current procurement practice of Delmarva continue.

2. Shorter Contract Lengths for Competitive SOS Bidding

Under the current procurement process, SOS charges will change once a year. This occurs when one of the three outstanding contracts expires and a new contract is secured through competitive bidding. In order to further diversify the risk of procuring the annual energy requirements of the SOS customers, Delmarva would like to explore with the Commission the possibility of conducting competitive supply bids twice a year. The semi-annual procurement will diversify the exposure to market prices, because procurement occurs more often within the year. Delmarva believes this practice has the potential to reduce prices without having an unacceptably adverse impact on price stability. The Maryland Public Service Commission recently ordered SOS procurements in Maryland to be conducted twice, rather than once, each year.

3. Longer Contract Lengths for Competitive SOS Bidding

PHI experience with the rolling three year SOS procurement in other jurisdictions gives comfort that using the rolling three year procurement process will work in achieving both price and price stability objectives for SOS customers. It is also apparent that there are enough wholesale suppliers willing to bid three year supply contracts to create a

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competitive wholesale market for this contract duration. These suppliers are also willing to bid the full requirements electricity product discussed earlier.

Another important consideration in extending contract durations is counterparty default risk. The longer the term of a procurement contract, the greater the protection customers need against a potential default by a supplier. In today's market, Credit Rating Agencies are critically assessing longer term obligations of electric distribution companies. Long term obligations, particularly those over three years, are likely to become part of any Credit Agency review. Because a more negative credit rating can lead to increases in the Electric Distribution Company's Cost of Capital, this can impact the distribution cost for both SOS and non-SOS customers. If contract durations longer than three years are implemented, there will need to be a careful consideration of the Credit and Supplier default implications, so that adequate protections for SOS customers can be implemented.

Delmarva recommends maintaining the current three year rolling SOS contract procurement process; however, Delmarva would be willing to consider extending the duration of SOS procurement contracts to four or even five years, so that each year Delmarva would renew approximately 25% or 20% respectively of the SOS load. In order for this to succeed, Delmarva would need to be able to procure full requirement products for these longer duration contracts, implement appropriate credit requirements and protections from supplier default, and there would need to be enough suppliers willing to bid at these longer durations, so that the bidding is competitive.

Delmarva does not recommend contract durations for SOS procurement beyond five years. At this length of time, the potential of SOS customer migration risk could be difficult to mitigate; causing bidders to add significant risk premiums to their bids. At contract durations greater than five years, credit, security, and supplier default issues become extremely critical considerations. In addition, if new lower cost energy producing technologies become available, such long term contracts may make it more difficult for the benefits of these technologies to reach SOS customers.

4. Long Term Contracts – 10 to 25 Years

As an Electric Distribution Company providing Retail SOS service, Delmarva has a different risk profile than a Wholesale supplier. Wholesale suppliers typically sell into broad power markets and maintain diversified portfolios of generating assets (i.e., base-load, cycling, and peaking plants), short and long term fuel contracts, derivatives, and other products to manage their business risks. Wholesale suppliers can purchase or sell as much electricity as they need to meet business objectives; they are generally not tied to providing load for a specific group of customers.

Conversely, Electric Distribution Companies providing SOS service, have an obligation to provide electricity to a specific group of customers within a specific jurisdiction. The size of the SOS load obligation may not be large enough to support maintaining a diversified portfolio of physical assets, fuel contracts and financial assets.

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Consequently, Electric Distribution Companies with a retail SOS load obligation, such as Delmarva, most often use contracts acquired through a transparent and competitive process with wholesale suppliers to meet the needs of their SOS customers. As discussed above, Delmarva currently uses rolling three year contracts to supply SOS customers and mitigate their risk.

There are many significant areas of concern related to using long term purchase power agreements to procure SOS energy supply including:

- Supporting the financing of constructing new generation developed by a third party;
- Tying an SOS contract directly to a specific generation asset;
- The specific electricity products being delivered;
- Credit and Accounting issues affecting the Electric Distribution Company;
- Security, Collateral, and potential for default; and
- Contract duration, Migration risk and Stranded Cost

The typical generation project developer requires a very long term Purchase Power Agreement contract (up to 25 years), specifying fixed quantities of plant capacity and electricity output that *must* be taken by the purchaser. The PPAs are typically structured to mitigate the risks to the investors, who are financing the project by providing a guaranteed revenue stream from the project. PPAs typically do not consider whether the energy that must be taken is at a rate that is above market or whether the energy that must be taken meets the SOS customer needs. PPA's are more interested in locking in guaranteed revenue streams for the developer and their financiers. In addition, because of the structure and duration of most PPAs, there will be considerable SOS customer migration risk.

Relying on a contract from a large single source generating facility reduces diversity and creates performance and operating risk to the SOS customer. If the facility were to experience an outage or degradation of performance, the Electric Distribution Company would still need to procure load for the SOS customers. This could expose SOS customers to spot market prices. Under the current SOS procurement process, Delmarva's contracts are not for single source generation; they are backed by the diversified assets of the wholesale suppliers. Procuring large amounts of supply from a specific generation source will reduce diversification of risk related to SOS procurement and is inconsistent with the guidance of EURSA to secure energy requirements from a diverse set of suppliers.

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Another issue for long term power contracts is that debt rating agencies, such as Moodys' and Standard and Poors', view such contracts as debt-like in nature. Typically, a rating agency will factor a percentage of the net present value of a long term power contract's capacity payment as debt in their quantitative assessment of a utility's credit quality. The utility's debt leverage, for credit quality purposes, would increase, requiring incremental equity to be issued in an amount that would return the utility's capital structure to the ratios that would be in place absent the long term power contracts being imputed as debt by the rating agencies. When assessing the financial impact of long term contracts on a utility's balance sheet, for contracts having the same volumetric amounts but different terms, the longer term contract's imputed debt would result in a higher overall cost of capital requirement for the utility than the contract of shorter duration. A utility's overall cost of capital, and hence customer's prices, would be higher due to the greater incremental equity requirement associated with the longer term contract having a larger notional value.

Also, if the generation contract counterparty to the Electric Distribution Company is deemed to be a "Variable Interest Entity" under the Financial Accounting Standards Board ("FASB") Interpretation No 46 ("FIN 46"), then the debt associated with the project will need to be consolidated on the balance sheet of the Electric Distribution Company. In this situation the Electric Distribution Company would have to carry the entity on its books without control over the entity's operation, except through contract.

Yet another compelling risk associated with long term power purchases is the potential impact on SOS customers of a default in multi-year PPA commitments. This risk is considerably greater than for shorter term commitments. In the event of a default, the Electric Distribution Company would still need to supply the SOS customer load, so appropriate protections would need to be in place.

History has shown that weak credit and security requirements expose utilities and their customers to massive damages. In recent years, Enron, Calpine, USGen, Mirant, NEGTEC and NRG have each filed for bankruptcy protection. In many of these cases, in addition to the project-level entity, the parent/guarantor also filed for bankruptcy protection. Thus, a parent guaranty does not provide the same protections as a letter of credit and is largely irrelevant if the parent files for bankruptcy. PHI has first-hand experience dealing with these credit, security and bankruptcy risks. Specifically, in 2000, Mirant purchased Pepco's generating assets and assumed various power purchase obligations.

FERC ultimately declined to intercede with the Bankruptcy Court, finding that the credit risk had been assumed by Pepco. In light of this precedent, and in order to protect Delmarva's customers from large losses, Delmarva's credit and security requirements must not be compromised should any long term PPA be executed.

Retail customer choice permits customers to freely move to alternative energy suppliers. If the SOS rate based on a long term PPA becomes higher than market based rates, SOS customers would likely select alternative providers, resulting in a

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decrease in the load served by SOS. However, even though Delmarva's SOS load has diminished, Delmarva would still have the contractual obligation under the long term PPA to purchase power at above market prices. This would create stranded cost that would have to be allocated to the remaining SOS customers or, alternately, all distribution customers including non-SOS customers. The longer the term of the contract, the greater the risk of this occurring and the related stranded cost becoming very significant.

In general, the longer the average duration of fixed price SOS supply, the greater the opportunity there is, during the fixed price period, for customers to leave SOS for a more favorable priced alternative. Over time, given volatile energy prices, a longer term, fixed price SOS supply portfolio would likely be above and/or below the relative market prices at various points in time. During the time when the fixed SOS supply price is above the market alternatives, customer choice (migration) would likely increase. Relying on longer term contracts, such as a PPA tied to a new generating resource as a source of supply for servicing SOS, would result in a higher risk of customers choosing alternative suppliers and result in periods of time where the SOS supply volume would exceed the load it was acquired to serve.

The use of physical assets to provide SOS load is a function that is more appropriately served by wholesale suppliers, who can use such physical assets in a broadly diversified portfolio to hedge their market positions.

5. Rate-Based Generation Assets

Prior to the advent of retail competition, Delmarva's generating supply assets were included in rate-base. For a regulated utility with an exclusive customer franchise, these assets are allowed to earn the regulated rate of return, the assets are depreciated using regulatory accounting rules, and all construction costs, including upgrades to existing plants, are subject to Commission review and approval.

Rate-based plants were financed by Delmarva and the financing was secured by the assets themselves and the credit of Delmarva. There were no minimum output or "must take" provisions associated with these assets to secure financing. Generally, during those time periods when a rate-based generating asset was not economic to run, it was shut down and lower cost energy was "imported" from PJM. Unless constrained for special reasons, these assets were not run if not economic. Finally, customers received the benefits of the rate based plant over its entire economic life, whereas under a long term PPA when the contract ends the benefits of the plant go to the investors rather than to customers.

Under the current law in the State of Delaware, all retail customers have the right to select another energy supplier. Delmarva believes that rate-based generating assets are incompatible with customer choice. If, and to the extent that, the provisions of the law that allow customer choice were revised to reestablish the utility's obligation to

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serve all customers and eliminate customer choice, then rate-based generation assets should and would be evaluated as part of any Delmarva prepared IRP.

VIII. BASE CASE AND SCENERIO ANALYSIS

Delmarva contracted the firm ICF to perform the analysis supporting this IRP for Delmarva's Delaware customers. ICF forecasts of future power operations, including the wholesale power market price forecasts below, were generated using ICF's proprietary IPM® power model and associated data system. IPM® is a simulation model projecting wholesale market power prices based on an analysis of the engineering economic fundamentals. The model does not extrapolate from historical conditions, but rather for given future conditions (new demands, new firm plants, new fuel market conditions, new environmental regulations). Specifically, the model projects plant generation levels (i.e., dispatch), merchant power plant revenues and costs, new power plant construction, mothballing, retirements, retrofitting, upgrades, fuel consumption, and inter-regional transmission flows. The model looks ahead at future years and simultaneously evaluates decisions over specified years.¹

ICF's IPM® power model is widely accepted by rating agencies and investment banking institutions. The model has been used in hundreds of industry and plant valuation assignments for power industry participants over the course of ICF's nearly 30 years of generation sector experience. The model has been used extensively in litigation and administrative regulatory settings, including the largest stranded cost case in United States history. The model has been used on behalf of both public and private sector clients. FERC used IPM® in its recent study of the effects of its own transmission policies in the industry. IPM® and earlier versions are the only tools used by the United States federal government over the last twenty-five years for detailed analysis of the impact of air pollution regulations on the power industry. Lastly, the model has been used extensively internationally and by industry-wide entities such as Electric Power Research Institute ("EPRI"), Edison Electric Institute ("EEI"), and CRIEPI (Japan's EPRI).

Key assumptions made in developing the base case for this IRP include:

- A ten-year planning horizon (2007-2016);
- A 2.5% annual inflation rate;
- A 6.3% real discount rate (WACC);

¹ As is apparent to anyone who deals with such models, the output of the model is determined by the assumptions that are fed into it. As is also well known, these assumptions about factors such as fuel prices, government policies, etc., can turn out to be disastrously wrong. Thus, while such modeling is a valuable tool for consistency in analyzing alternative paths, it is by no means necessarily a basis upon which to commit resources. These limitations must be taken into account in considering the results obtained by modeling. Essentially, the base case developed here assumes the continuation of current economic trends and governmental policies, except where significant evidence exists that they will not obtain in the future.

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- A load forecast based on the latest PJM load forecast, which reflects about a 2% peak load growth over the planning horizon;
- A 20% reduction in New Jersey energy consumption by 2020;
- Completion of the MAAP and AEP transmission enhancement projects;
- Coal price projections as reflected in the following table. Transportation costs range from \$13.2 to \$17/ton (2005 dollars) in 2007. Transportation costs are assumed to increase at an annual rate of 1% through the planning horizon;

Coal Price – Minemouth (2005\$/ton)	Central Appalachian (1.0% S, 12,000 Btu/lb)	Kentucky East (1.2% S, 12,665 Btu/lb)
2007	53.40	50.02
2010	48.94	47.06
2015	52.43	52.21
2020	59.04	65.38

- Natural gas price projections delivered to Delmarva as reflected in the following table;

Year	Delivered Gas Price (2005\$/MMBtu)	Delivered Gas Price (Nominal\$/MMBtu)
2007	7.75	8.14
2010	6.49	7.34
2015	6.86	8.78
2020	7.46	10.80

- New generating plant construction costs and lead times, as reflected in the following table. The all-in capital costs are for a 2013 in-service date except for nuclear which is based on 2020;

Plant Type	All-in Capital Cost (2005\$ kW)	Earliest In-Service
Combustion Turbine	527	2007
Combined Cycle	877	2008
Integrated Gasification Combined Cycle	2,928	2013
Pulverized Coal	2,581	2013
Circulating Fluidized Bed	2,964	2013
Nuclear	3,429	2020

Note: Assumptions reflect Delaware construction.

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- Economic mothballing, return to service and retirements of existing generating units considered throughout the planning horizon;
- New renewable plant assumptions as reflected in the following table;

Resource Type	Capital Cost (2005\$/kW)	Fixed O&M (2005\$/kW-yr)
On-shore Wind Step 1	1,423	28
On-shore Wind Step 2	1,687	28
On-shore Wind Step 3	2,084	28
Off-Shore Wind	2,057	57
Solar Thermal	3,715	53
Photovoltaic – Central	5,416	11
Photovoltaic – Distributed	5,081	11
Biomass	2,211	50
Landfill Gas	1,883	107

- Full compliance with CAIR, CAMR, and RGGI; and
- The phasing in of a national greenhouse gas program, beginning in 2015, with a carbon price reaching \$26/ton (real 2005\$) by 2025.

The base case indicates that by 2016, an additional 125 MW of generation from renewable resources (particularly on-shore wind) should be built in Delaware. The additional resources attributable to SOS customers (assuming no migration) would be 44 MW of generation from renewable resources.

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The results for the base case are shown below:

Year	Cumulative Build (MW) in Delaware through 2016		
	Renewable	Other	DSM & Efficiency Peak Load Reductions
2007	0	0	13
2010	40	0	90
2013	118	0	186
2016	125	0	198

Year	Model Output Average Cost ¹ (2005 \$/MWh)	Model Output Levelized Cost ² 2007-2016 (2005\$/MWH)
2007	52.33	51.25
2010	44.53	
2013	51.62	
2016	58.08	

NOTE ¹ Includes capacity and energy.

NOTE ² Levelized using a real discount rate of 6.3 percent.

These costs derived by the model are not in any way representative of any prices that customers may pay. These costs do not reflect a load shape. They exclude any component for transaction costs, risk premium, general and administrative costs, margin, taxes, surcharges, transmission or distribution. In today's customer choice environment, consumers' prices are market based.

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The results for the sensitivity cases are shown below:

Case	Cumulative Build (MW) in Delaware through 2016		
	Renewable (MW)	Other (MW)	DSM & Efficiency Peak Load Reductions (MW)
Base Case	125	0	198
Base Case With Lower Capital Costs	125	83	189
Base Case With Higher New Jersey Load	128	0	212
Base Case Without MAPP Transmission Project	125	0	198
Base Case without DSM	125	0	0
Base Case with Lower Gas Prices	109	0	198
Base Case with Higher Coal Productivity	122	0	198
Case	Levelized Wholesale Cost Index ¹ 2007-2016		
Base Case	100		
Base Case With Lower Capital Costs	99		
Base Case With Higher New Jersey Load	104		
Base Case Without MAPP Transmission Project	100		
Base Case without DSM	100		
Base Case with Lower Gas Prices	92		
Base Case with Higher Coal Productivity	99		

NOTE ¹ Levelized using a real discount rate of 6.3 percent.

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VIII. ACTION PLAN

Consistent with the results of the IRP, and subject to approval by the Commission, Delmarva, together with interested parties, will:

1. evaluate securing renewable resources by 2016 to serve SOS customers;¹
2. evaluate and monitor the proposed major transmission upgrades, which if constructed, will significantly reduce congestion and allow for greater access to all system resources will occur in PJM within the next ten years;²
3. implement conservation, load control and DSM programs such as Residential Commercial Smart thermostats and rebates for High Efficiency Air Conditioning and High Efficiency Lighting which can provide cost-effective opportunities for energy efficiency improvements for Delmarva customers;³ and,
4. encourage developers, via the PJM process, to locate generation in areas within PJM, where they are most needed. This process, known as RPM, is scheduled to begin in June 2007 ⁴

¹ This could include changing the SOS auction process to require an increased percentage of renewable resources to be bid.

² These transmission projects have the potential to greatly affect the competitive energy market on the Delmarva Peninsula in many positive ways and are a preferable alternative to the construction of large, new generating facilities in Delaware. The reduction in congestion, plus greater access to lower cost generation resources in PJM, are two of the more important benefits provided by new transmission assets.

³ These programs will be further enabled by the deployment of smart metering technology. It is recommended that Delmarva coordinate and administer the DSM and conservation efforts for its Delaware customers to develop a unified and effective marketing plan and that the Commission authorize appropriate and timely recovery of costs and implement revenue neutrality for Delmarva to insure no disincentive for conservation.

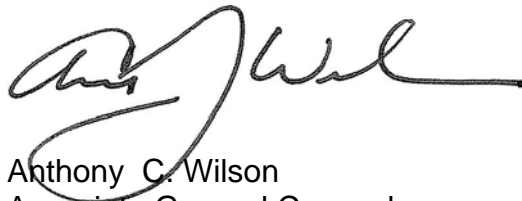
⁴ PJM, as the Regional Transmission Operator, has been given increasing planning responsibilities for the PJM control area (including Delmarva). PJM is in the process of implementing new market rules for generation capacity, designed to encourage. The implementation of RPM may bring significant generation additions within PJM. Delmarva will continue to support the development and implementation of RPM.

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5. maintain, evaluate and seek to refine the Delaware SOS policy of procuring rolling three year contracts, which policy will remain in place to provide SOS customers with access to competitively procured full requirements energy products.⁵

Respectfully submitted,

On behalf of Delmarva Power & Light Company



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⁵ Delmarva is of the view that the current system, with possible modifications, will allow SOS customers to receive competitively priced products from a diverse set of suppliers and protect SOS customers from the risks associated with owning supply assets. This process also has been shown to effectively mitigate price volatility. Delmarva, in conjunction with the Commission, would like to conduct the bid-auction process twice a year to further improve this process.